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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,531	04/01/2004	David Bogart Dort	VRBA.P002.A	9905

37578 7590 11/01/2007

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EXAMINER	
MA, CALVIN	

ART UNIT	PAPER NUMBER
2629	

MAIL DATE	DELIVERY MODE
11/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/816,531	DORT, DAVID BOGART	
	Examiner	Art Unit	
	Calvin Ma	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 September 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/03/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The references listed on the Information Disclosure Statement filed on October 3, 2004 have been considered by examiner; see attached PTO-1449.

Claim Objections

2. Claims 1-16 are objected to because of the following informalities: Several spelling and grammar errors need to be corrected.

In claim 1, line 4 the word "electricially" should be changed to electrically.

In claim 3, line 3, and claim 4, line 3 the words "detecton" should both be changed to detection.

In claim 8 the phrase "each axial directions" should be changed to each axial direction.

In claim 9 the word "incidude" should be changed to include.

In claim 14, line 8, the word "actice" should be changed to active.

In claim 16, line 1, the word "whereing" should be changed to wherein.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 7, and 10-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawabata (US Patent: 6,330,359).

As to claim 1, Kawabata discloses a system for digitally recording the motion of an instrument (i.e. the recognition system is mounted on a writing instrument and interpret its motion and storing the respective characters detected from the motion) (see Fig. 1, Col. 3, Line 61 – Col. 4, Line 14) including:

a power source (i.e. since the mercury switch is an electrical device it requires electricity to operate it and therefore a electrical power source is present to operate the switches) (see Fig. 4a, Col. 4, Lines 37-46);

at least two hollow tubes (29a, 29b, 29c) made of electricially conductive material (i.e. the glass tubes each have two leads on it therefore it is made of electrical conductive material) coupled to said power source through first connection (i.e. one of the lead on the mercury switches), said at least two hollow tubes including a viscous

material (i.e. mercury) in the interior contacting said electrically conductive material (i.e. the mercury when contacting the end with the two lead triggers the switch), wherein when said at least one of said at least hollow tubes moves in an axial or rotational direction(i.e. since the mercury switches are mounted at right angle to the axial direction, it moves in an axial direction with respect to the writing instrument) (see Fig.2, Col. 4, Lines 35-38), said viscous material contacting said electrical conductive material (i.e. mercury is a conductive material and is capable of conduct electricity between the two lead) (see Fig. 2, 4a, Col. 4, Lines 35-46);

a power sink coupled with said at least two electrically conductive hollow tubes through a second connection (i.e. the second lead on the mercury switch must be of a lower electrical potential, therefore when the mercury move into place the circuit is created as the electricity between the two lead passes through the mercury and the power source providing the electricity is united with the power sink).

As to claim 14, Kawabata discloses a system for tracking the motion of a writing instrument including:

a clock controlling a power source;

a series of virtual resistors (i.e. mercury switches 29a, 29b, 29c) coupled with said power source, each virtual resistor including a detection tube with a electrically active varying material (i.e. mercury 38), wherein the resistance of said of each virtual resistor is dependent upon the configuration of said electrically active varying material,

said material varying with motion of said writing instrument (i.e. since the resistance of the mercury switch has variable resistance based on the movement of the mercury 38 it functions as a virtual resistor where the mercury is the electrically active varying material) (see Fig. 2, 4, Col. 4, Lines 25-47);

a power sink (i.e. the common ground connections);

and a signal processor (i.e. CPU, 40) (see Fig. 5, Col. 5, Lines 1-14).

As to claim 2, Kawabata teaches the system as recited in claim 1, further including a transistor coupled in between said at least two hollow tubes and said second connection (i.e. since the CPU is connected to the mercury switch and CPU by definition is a collection of transistors, since the second connection is ground, for the circuitry to be complete the CPU must be between the two hollow tubes (mercury switch) and the ground to form a complete circuit) (see Fig. 1, 5, Col. 4, Lines 63-67).

As to claim 3, Kawabata teaches the system as recited in claim 2, wherein said transistor does not provide an electrical signal to said power sink unless the power reaches a voltage indicative of at least a detection threshold (i.e. since the mercury switch is only on and off, its voltage indicative of detection is applied by the CPU to the ground at a threshold position where the mercury fully complete the electrical connection between the two leads) (see Fig. 4a, Col. 4, Lines 37-46).

As to claim 4, Kawabata teaches the system as recited in claim 2, wherein said transistor does not provide an electrical signal to said power sink unless the power reaches a power indicative of at least a detection threshold (i.e. since the mercury switch is only on and off, its power indicative of detection is applied by the CPU to the ground at a threshold position where the mercury fully complete the electrical connection between the two leads) (see Fig. 4a, Col. 4, Lines 37-46).

As to claim 7, Kawabata teaches the system as recited in claim 1, wherein there are four of said hollow tubes (i.e. four mercury switches on the body 64) (see Fig 2, 4, Col. 14, Lines 40-43).

As to claim 10, Kawabata teaches the system as recited in claim 1, wherein said sink (i.e. the ground connection) is coupled with electronic storage (i.e. RAM 44) (i.e. since the CPU 40, ROM 42, and RAM 44 are all connected together on the same bus they have the same ground connection) (see Fig. 5, Col. 5, Lines 1-14).

As to claim 11, Kawabata teaches the system as recited in claim 10, wherein said electronic storage (i.e. RAM 44) stores data (see Fig 5, Col. 5, Lines 1-14).

As to claim 12, see discussion 1 above, since claim 12 introduces no further limitation to claim 1, which it is depended on, and is rejected on the same ground.

As to claim 13, Kawabata teaches the system as recited in claim 1, wherein said hollow tubes are substantially cylindrical (i.e. the mercury switch has a body that is substantially cylindrical) (see Fig. 4a).

As to claim 14, Kawabata discloses a system for tracking the motion of a writing instrument including:

a clock controlling a power source (i.e. since the CPU provide the power and it has a clock) (see Fig. 10A, Col. 6, Lines 30-45);

a series of virtual resistors (i.e. mercury switches 29a, 29b, 29c) coupled with said power source, each virtual resistor including a detection tube with a electrically active varying material (i.e. mercury 38), wherein the resistance of said of each virtual resistor is dependent upon the configuration of said electrically active varying material, said material varying with motion of said writing instrument (i.e. since the resistance of the mercury switch has variable resistance based on the movement of the mercury 38 it functions as a virtual resister where the mercury is the electrically active varying material) (see Fig. 2, 4, Col. 4, Lines 25-47);

a power sink (i.e. the common ground connections);

and a signal processor (i.e. CPU, 40) (see Fig. 5, Col. 5, Lines 1-14).

As to claim 15, Kawabata teaches the system as recited in claim 14 further including a filter (i.e. held state recognizing means 12) for at least one of said resistors (i.e. the held state recognizing means 12 act as a filter that extract useful information that is then outputted to the analyzing means 14) (see Fig. 1, Col. 4, Lines 15-29).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 8-9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata in view of Shriver (US Patent: 5,981,883).

As to claim 8, Kawabata teaches the system as recited in claim 1, wherein there is a hollow tube, but does not explicitly teach for each axial direction (i.e. direction X 302 and Y 300) at least two rotational directions. Shriver teaches using sensor to detect at least two rotational directions (i.e. calculate THETA, PSI) (see Fig. 12-13, Col. 19, Lines

5-30). There fore it would have been obvious for one of ordinary skill in the art at the time the invention was made to have combined the tilt sensory location method of Shriver to the overall pen input system of Kawabata in order to ensure the device operate accurately. (see Shriver Col. 2, Lines 5-10)

As to claim 9, Kawabata teaches the system as recited in claim 8, and Shriver teaches wherein said at least two rotational directions include tilt from a vertical upright position (theta) (i.e. THETA 308) and clock position (alpha) (PSI 310 can be extracted as the clock position since it is based on a relative axis which is the same as the clock position) (see Fig. 13, Col. 19, Lines 5-30). Therefore the combination of Kawabata and Shriver meets the claim.

As to claim 16, Kawabata teaches the system as recited in claim 15, wherein there are at least 4 said virtual resistors, while Shriver teaches sensors corresponding to at least two axial directions (i.e. direction X 302 and Y 300) and at least two rotational directions (i.e. calculate THETA, PSI) (see Fig. 12-13, Col. 19, Lines 5-30).

7. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata in view of Rosenberg et al. (US Patent: 5,734,373)

As to claim 5, Kawabata teaches the system as recited in claim 1, but does not teach said power source is pulsed. Rosenberg teaches power source is pulsed (i.e. since local processor 26 and clock 29 operates the sensor which is passive unless sampled by the processor, when the sensor output the sensor interface 36, and the local processor is said to be MC68DC117E9 by Motorola, this means that the applied power to the sensor switch is in pulses) (see Fig. 1, 5, Col. 9, Lines 1-39).

Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to have used the local processor design as taught by Rosenberg to control the sensor in the pen input system of Kawabata in order to create a more cost effective design for the overall system (see Rosenberg Col. 3, Lines 19-22).

As to claim 6, see the discussion of claim 5 above, Rosenberg teaches the power source being pulsed at less than 1 millisecond (i.e. the local processor is said to be MC68DC117E9 by Motorola, which is much faster than 1 kilo-Hertz which means that the applied power to the sensor switch is in pulses at less than 1 millisecond) (see Fig. 1, 5, Col. 9, Lines 1-39).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Carl (US Patent: 7,203,384) is cited to teach a system of polar

coordinate based pen input system. Vablais et al. (US Patent: 6,906,703) is cited to teach another complete system of pen motion input device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Calvin Ma whose telephone number is (571)270-1713. The examiner can normally be reached on Monday - Friday 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on (571)272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

10/22/2007
Calvin Ma

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SUPERVISORY PATENT EXAMINER